1. INTRODUCTION

THE DELAWARE DEPARTMENT OF Transportation proposes to build a new road connecting U. S. Route 13 with McKee Road, a short distance south of Denney Road in Dover, Kent County. The new road, to be known as Scarborough Road, has been known colloquially as the new Denney Road.

As currently proposed, the right-of-way for this four-lane road will encompass a path 175 feet wide, and a little over a mile long, shown as a dashed line on the maps and plans herewith. At Route 13 and at McKee Road, the right-of-way will widen to accommodate intersections and turn lanes.

East of St. Jones River, the proposed road will cross the campus of Delaware Technical and Community College. After crossing the river, the new road will cross a privately-owned farm on the west bank

THE CURRENT INVESTIGATION

In order to comply with Section 106 of the National Historic Preservation Act of 1966 as amended, and other regulations, the Department of Transportation engaged Edward Heite to conduct Phase I and Phase II cultural resources investigations in the proposed corridor. The consultant in turn engaged Cara L. Blume as consultant to analyse the prehistoric aspects. The project area was generally the proposed rights-of-way and certain adjacent areas that might be impacted.

Work on the present cultural resources project was conducted between October 1989 and October 1992, under the general supervision of Kevin Cunningham, archæologist for the Delaware Department of Transportation.

Purpose of a Phase I survey is to identify all cultural resources that might be affected by the project, but to investigate neither their extent nor their significance.

Phase II surveys assess the extent, integrity, and probable eligibility for listing in the National Register of Historic Places, of sites identified in the first survey.

The 1989 Phase I work was conducted by Heite personally, working alone, beginning October 9, 1989. Blume joined the project when Phase II work began in 1990. The 1990 fieldwork was assisted by members of the Kent County Archæological Society. Phase I ended in November 1990 with the recording of machine-cut trenches. In 1991 and 1992, Phase II work was performed by Heite and Blume, assisted by Cherie A. Clark, with the help of a field crew consisting of George Keeler, Sam Cammisa, Aaron Jones, Greg Bailey, and Trent Collins.

CONSTRAINTS

There were few constraints on survey; for the most part conditions were ideal. Soybeans, high grass, and mosquitoes proved to be temporary annoyances, but not impediments.

At the Route 13 end, the disturbance caused by a trailer sales yard confined the survey. After the trailers were removed, the site was trenched and searched for buried features.

It was not possible to use dry-land methods to investigate the drowned historic valley of Fork Branch. It should be noted, however, that prehistoric settlement is unlikely to have taken place in the poorly drained soils of the floodplain, and historic use of this area is also likely to have been extremely limited.

EARLIER PHASES OF THIS SURVEY

An earlier report (Heite and Blume 1992) chronicled Phase I and Phase II surveys in a broad corridor. Two alignments were investigated at that time, and several sites were identified on both sides of the river.

In 1992, the Department engaged the authors to examine a new version of the southern alignment. Redefinition of the southern alignment, and refinement of the plans, prompted additional cultural resource investigations.

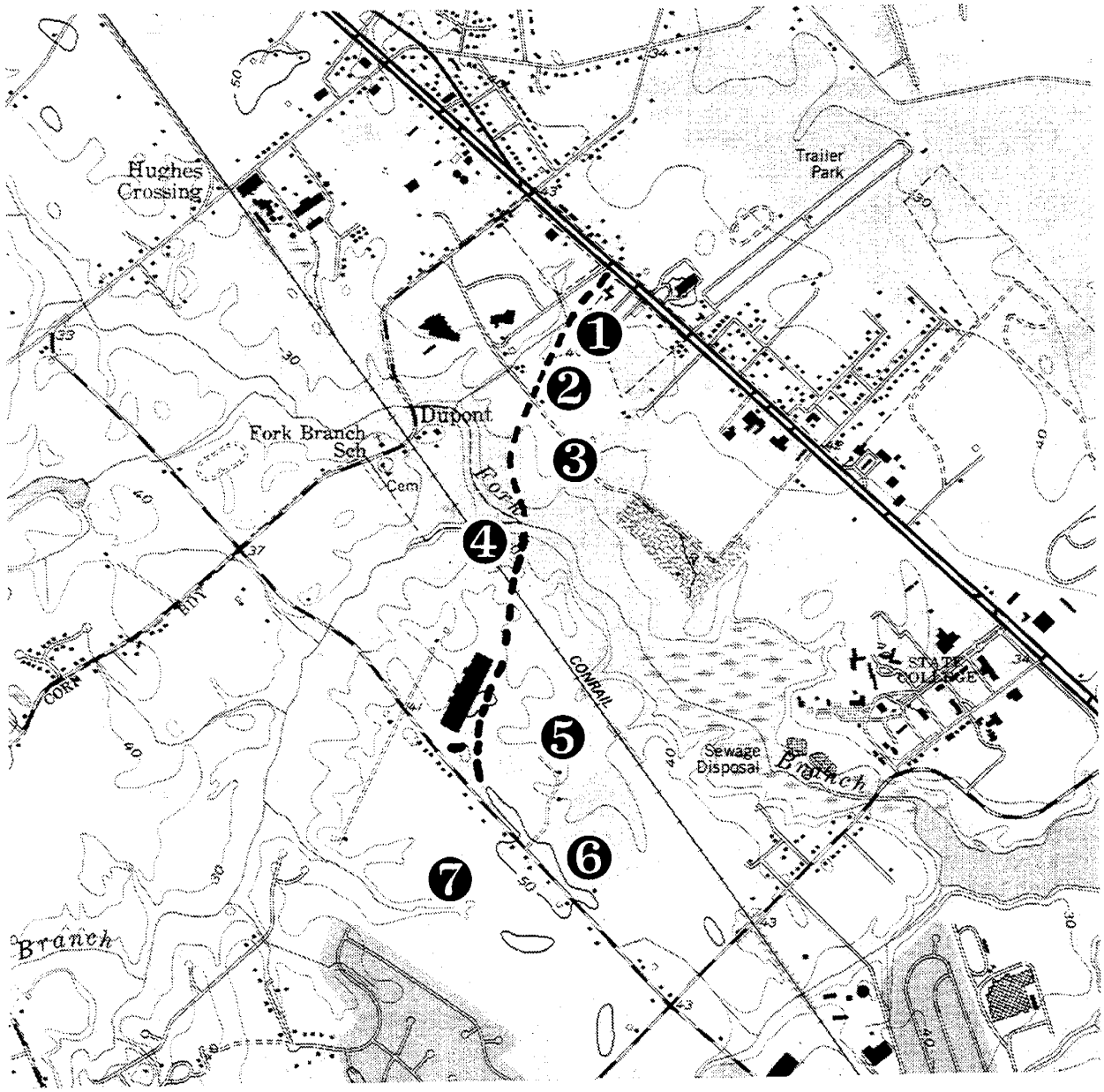

Figure 1

Project Area

Detail of USGS Dover quadrangle, 1956, 1981

DEL.

Alignment centerline is shown as dashed line. Study areas are numbered.
1. Trailer Sales 2. Athletic Field 3. White Marsh 4. Ford Farm prehistoric site
5. Scotten-Ford agricultural complex. 6. Nathan Williams Site 7. Mosley Historic District

North

Scale: One Mile

East of the river, it was determined that no sites eligible for the National Register would be impacted by the proposed construction of the selected alignment.

West of the river, the original survey identified several potentially significant historic resources that would be impacted the selected alignment.

Two properties not included in the original survey were identified for Phase I testing in the present project. These were the farmsteads west of McKee Road and the section of the Ford Farm prehistoric site complex that lies in the selected alignment.

TESTS AT RIVER CROSSING

During the first survey along this corridor, the authors identified two large and significant stratified prehistoric sites, Blueberry Hill (7K-C-107) and Ford Farm (7K-C-386, locus D). These two resources were interpreted as nodes in a related series of sites on the bluffs along the west bank of the river.

Current plans call for a bridge to be built between these two locations, prompting further test excavations at the Phase I level. The purpose of thes test excavations was to determine if a stratified site existed here. For the sake of convenience, this location was denominated Ford Farm locus E, part of 7K-C-386).

During preliminary walkovers, prehistoric stone tools were found in the proposed bridge location, thrown up by recreational use of the area.

All-terrain-vehicle enthusiasts have carved trails through the project area, part of which remains wooded. Between the dirt bike and ATV tracks, there was a very high probability that stratified undisturbed prehistoric remains survived.

Because the nearby Blueberry Hill site is deeply stratified, deep testing was indicated at the newly-proposed crossing point. At least five test units, each one meter square, were to be opened to a depth below the lowest prospective human occupation level. In fact, six units were opened and evaluated by a soil specialist.

SCOTTEN-FORD TOFT

For a century, the farm west of the river has been home to a single family, whose progenitor built the farmhouse and outbuildings that still stand. The proposed new road alignment passes near the toft. The apparent integrity of the original house and its outbuildings indicated that the toft may be eligible for the National Register.

The proposed new alignment will pass near the site of a "portable" sawmill, which actually was a permanent installation. This mill site was identified in the earlier study as potentially eligible under criterion D, a well-preserved industrial archæological site capable of expanding our knowledge of the operation of country sawmills.

A purpose of the current study was to determine if the sawmill site possesses sufficient integrity to be nominated independently or as a contributing element of a larger nomination for the farm. The mill ruins were cleared of underbrush and trash, then mapped and photographed.

Between the sawmill and McKee Road is a woodlot, mapped as Fallsington soil, most of which would be affected by the proposed alignment. This type of area is considered a low-probability locus for prehistoric occupations. The only expected historic-period activities would be logging and trash disposal.

The woodlot was checked by walkover survey, but was not subjected to a subsurface survey because of its low likelihood of containing sites. The woodlot boundaries almost exactly coincide with the Fallsington soil, a poorly-drained type that supports hardwood forests but little else.

The history and architecture of the house, outbuildings, and sawmill were recorded, so that a determination of eligibility could be formulated. Eventually the toft, croft, and sawmill were included in the final determination of eligibility.

NATHAN WILLIAMS SITE

Near the point where the proposed alignment meets McKee Road is the documented location of the toft and a tract of about 11 acres that is known to have been occupied by Nathan Williams, a free black, before the Civil War.

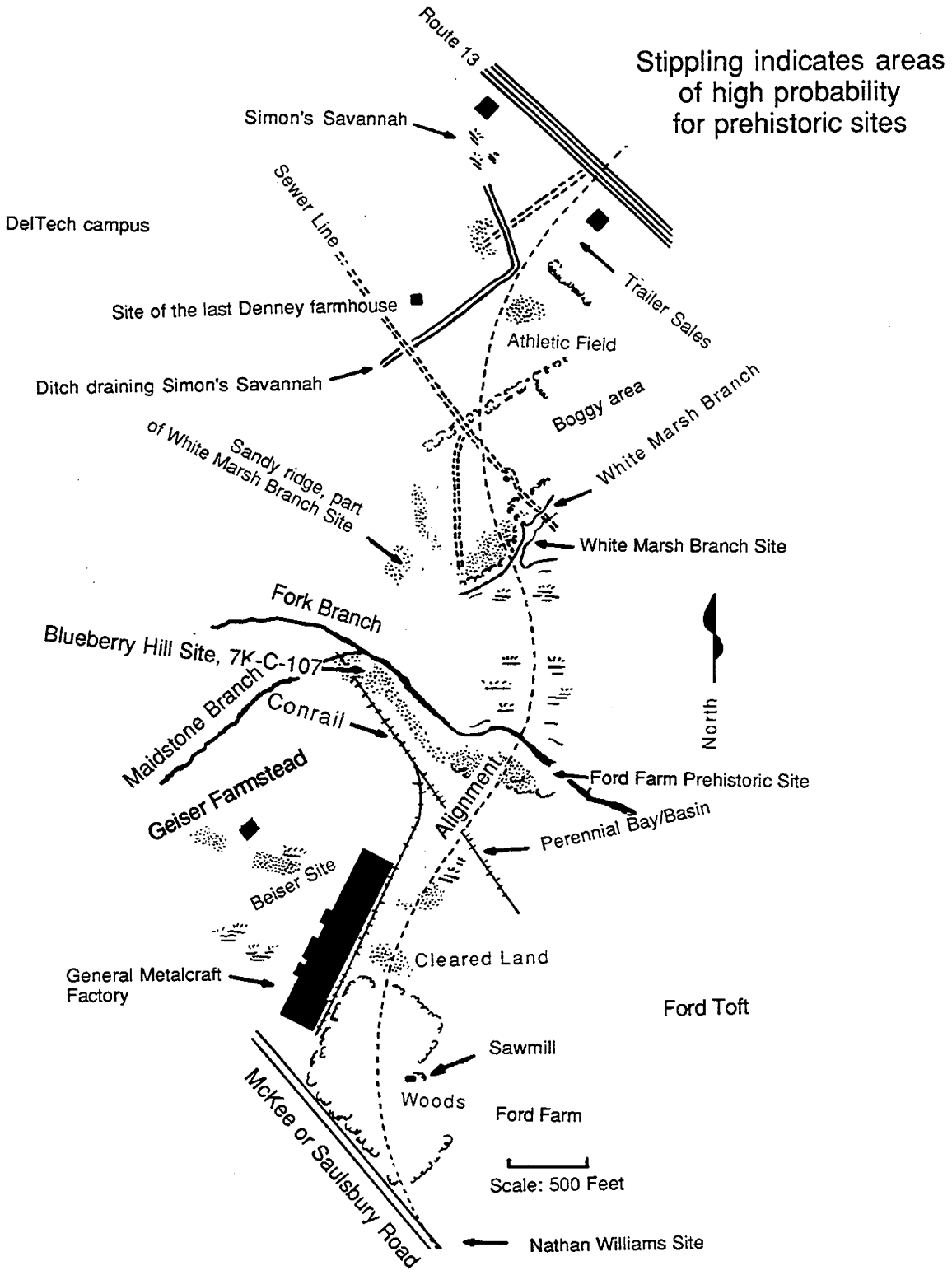

Figure 2
Sketch map of the project area

Physical evidence found on the surface of the plowed field during the earlier survey (Heite and Blume 1992:55) attests to the presence of nineteenth-century cultural remains, catalogued as Excavation Register 3. Examination of the plowzone during that survey provided a rough determination of site boundaries, apparently coincident with a slight topographic rise.

Because tenant houses frequently were sited near roads, the house site itself could have been lost to earlier road improvements. However, this site belongs to a poorly documented class, ante bellum free blacks who were not freeholders, and excavation of any surviving part of the toft could therefore be expected to yield significant information. Antebellum free black tenants are difficult to identify in connection with archæological sites, because recorded public land records rarely identify tenants. This site is thus potentially more valuable than either slave sites or the homes of black freeholders.

The site had been identified in the first survey, but its integrity and limits had not been defined. For a determination of eligibility, this information is essential. In order to test integrity and limits, a Phase II controlled surface collection was conducted and a test trench was cut with a Gradall and the features within it were mapped.

MOSLEY COMMUNITY STUDY

Changes to the existing McKee Road between College Road and the proposed intersection with Scarborough Road may have an impact on the historic Mosley community on the west side of the road, facing the Ford Farm.

The tract was developed during the final two decades of the nineteenth century, when the Mosley family began subdividing a farm, selling lots to closely related persons of the so-called "moor" ethnic group. Some history of these people was reported in Louise Heite's genealogical, historical, and archæological survey of the duPont Station community (Heite and Heite 1985).

A house from the project area is now the centerpiece of the collection at the Delaware Agricultural Museum, where considerable research effort has been expended to reconstruct its history and the story of the family that built and occupied it. In the course of this research, physical evidence contained in the fabric of the house has contributed significantly to both scholarly and popular knowledge of nineteenth-century Delaware farmlife.

Research in connection with museum restoration and interpretation has produced information about land use on the original site, including oral history that points to such potentially important archæological data as locations of wells and privies. According to museum staff, on-site archæological investigation would contribute significantly to their knowledge of the people who lived in the house. The original site has not been changed since the house was moved. Such important landmark features as yard trees, shrubbery, and fence lines still are easily discerned.

The original site of the removed house is therefore potentially eligible for listing in the National Register under criterion D, but it is not in the path of any currently-proposed construction. A small, two-square-meter, test confirmed that subsurface remains of the house foundations have survived.

In order to locate, identify, and evaluate cultural resources that might be found in the project area west of McKee Road, the Department authorized an investigation, including mapping known existing and former features potentially impacted by the proposed right-of-way, together with an ownership history and a culture history. This investigation was designed to meet the requirements of a Phase II evaluation and result in a potential nomination to the National Register of Historic Places.

The houses were evaluated for their potential contribution to defining a moor ethnic context as well as the context of historical agriculture. However, these specimens represent such a small sample that broader off-site survey information would be necessary to identify characteristics that might define a moor property type, if one can be shown to exist.

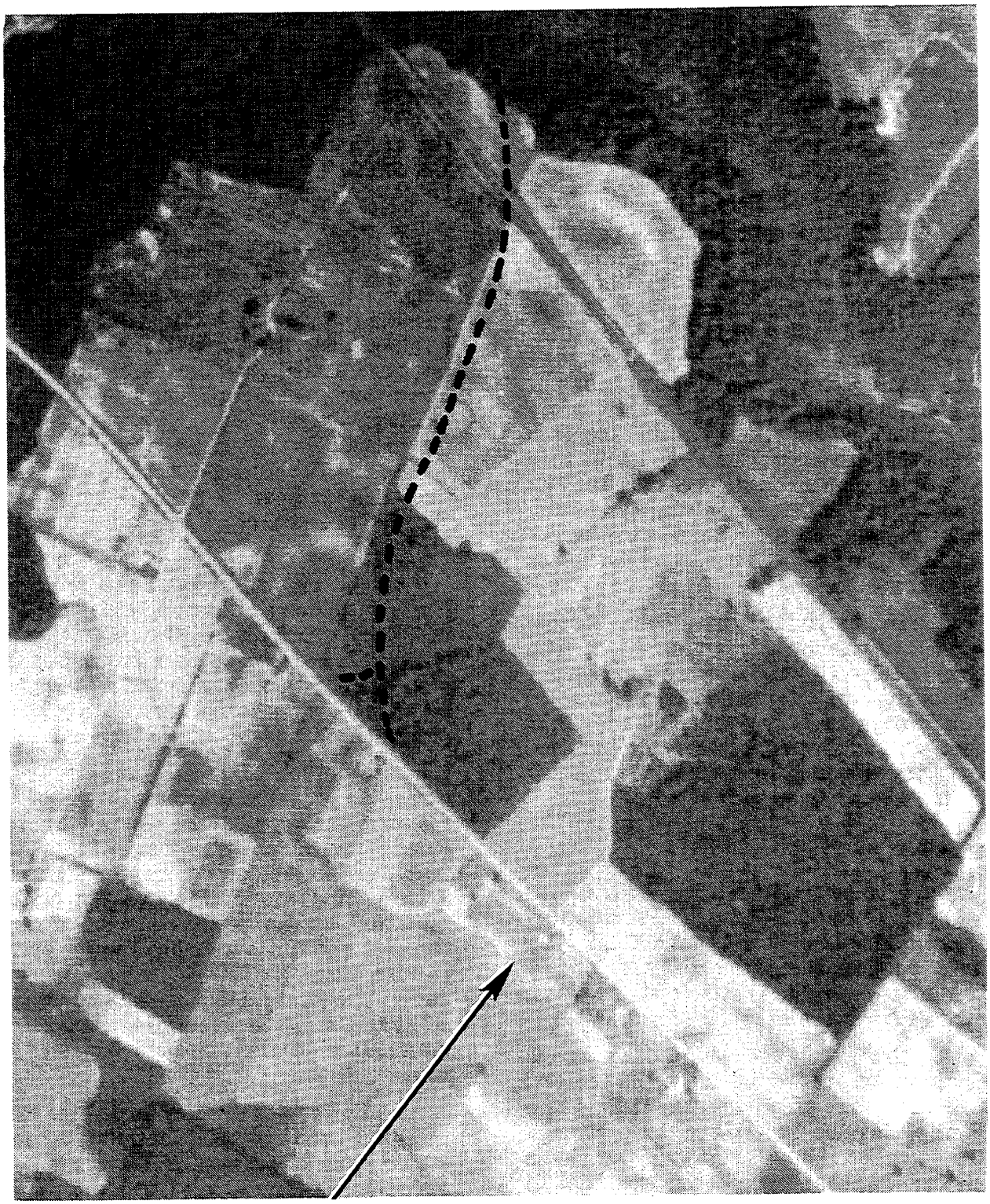

Plate 1

Detail of the 1937 ærial photograph of the project area

Dashed line represents the alignment west of St. Jones River. The now-demolished Robert Carney House can be seen opposite the Scotten-Ford driveway (arrow).

GEOGRAPHICAL LOCATION

The project area lies astride the main head stream of St. Jones River, which flows through a wooded freshwater swamp at this point (FIGURE 2). Much of the swampland has developed during the past three centuries at the head of a mill impoundment, but there are considerable natural wetlands in the floodplain. It lies on the eastern perimeter of the Mid-Peninsular Drainage Zone as defined by Custer and Galasso (1983:5) in their prehistoric survey of the valley.

SOILS

Soil type analysis is an important tool for archæologists working in the prehistoric period. Prehistoric people did not classify soils, but they were drawn to places with certain cover and drainage conditions that today's soil scientists have quantified. Archæologists can use these scientifically-described soil types to identify those places that would have provided suitable ground cover for prehistoric people.

Soils along this alignment belong to the Sassafras-Fallsington Association, "dominantly level to gently sloping, well-drained and poorly drained soils that have a moderately permeable subsoil of sandy loam to sandy clay loam; on uplands" (USDA SCS 1971). Most of the soils in the project area are mapped as Sassafras or Fallsington. Evesboro soils occur as a minority member of the association (FIGURE 3).

Sassafras soils are historically considered prime agricultural land, although the portion northeast of Fork Branch has not been farmed since the college and technical high school were built, nearly twenty years ago. Open ground west of the river was in soybeans, rye, and corn at the time of the survey.

Evesboro soils are loamy sands, and may be of æolian origin. Their native vegetation consists primarily of hardwoods. Unless they are treated with lime, Evesboro soils are considered extremely acid for agricultural purposes

ENVIRONMENT AND SITE LOCATION

Several natural and manmade features of the environment are culturally significant. Typically for this region, the most significant features relate to drainage or the lack thereof.

The right-of-way crosses through or near several low, wet depressions called "bay-basin" features that have been identified as culturally significant. Immediately northwest of the north end of the proposed road is a drained swamp known in Colonial times as "Simon's Savannah" after Simon Hirons, the first settler and patentee. The savannah, or bog, has been drained by a substantial ditch that currently separates the main DelTech campus from the athletic field. Cultural implications of Simon's Savannah include possible association with a tannery, and a possible prehistoric procurement site.

On the northeast bank of Fork Branch, the right-of-way crosses the mouth of White Marsh Branch, which was converted into a drainage ditch during the nineteenth century. At the mouth of this ditch, on the southern alignment, is a high-probability area for prehistoric occupation outside the right-of-way.

The southernmost part of the southern alternative, next to McKee Road, is a low-lying poorly-drained woodland that has never been completely cleared. It is unlikely that prehistoric settlement occurred in this area. Remains of a sawmill and of roads and boundary ditches are, however, visible in the woods. Fallsington soil dominates.

Custer (1984:52) has stated that prehistoric people of all periods located hunting camps at junctions of large and small stream terraces and near game-attractive areas such as bogs and swamps that characterize the project area.

Upper drainage areas, such as this, were exploited by prehistoric people primarily as places for food-gathering. As larger and more permanent settlements began to develop, later in the prehistoric period, they were located downstream, near the edge of the tidal marshes and the saltwater fisheries.

Historic farmers valued high, well-drained fields of sandy soil, which are abundant in the project area.

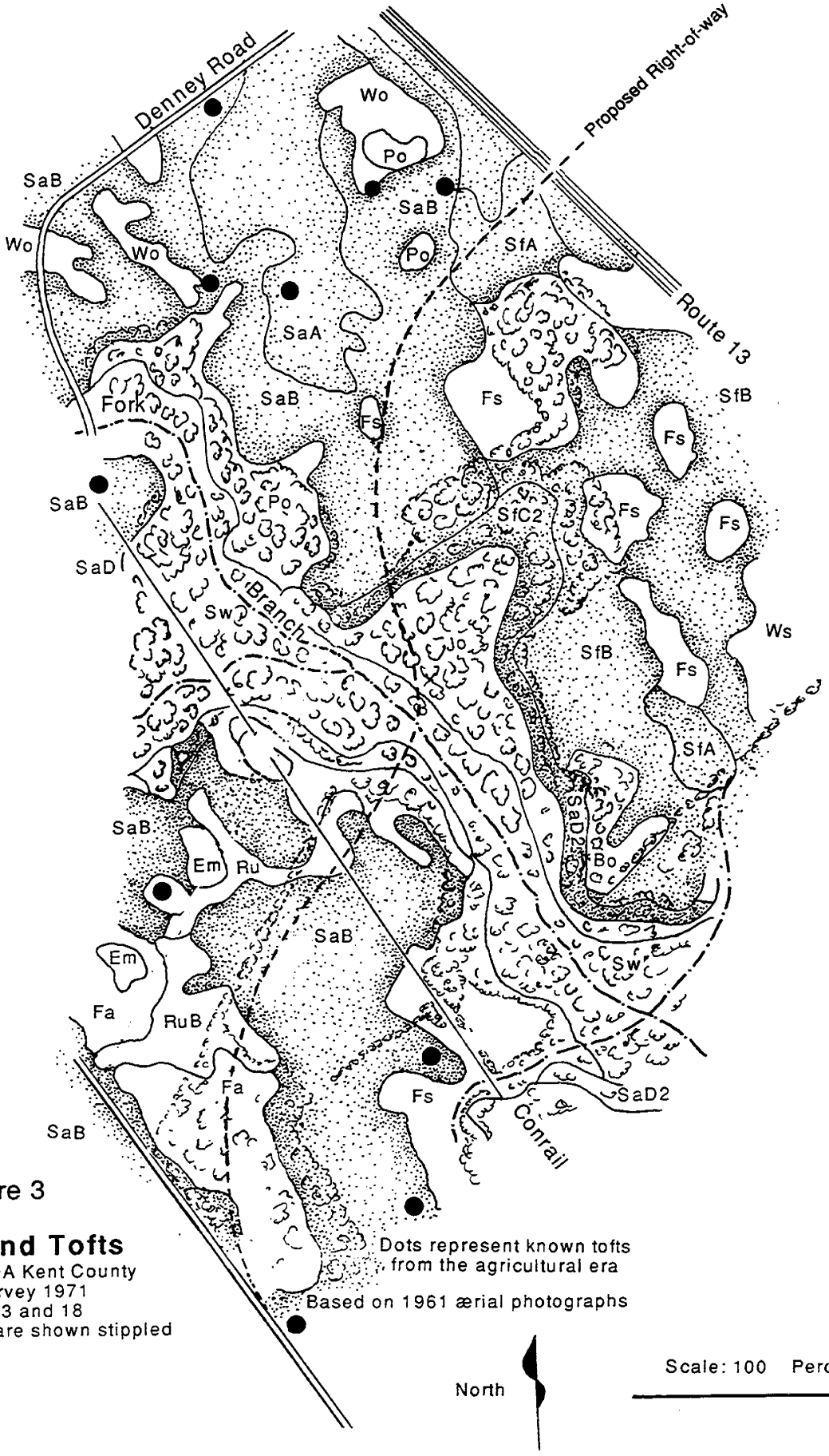

Figure 3

Soils and Tofts

Source: USDA Kent County
Soil Survey 1971
Maps 13 and 18
Sassafras soils are shown stippled

PREVIOUS INVESTIGATION IN THE VICINITY

Few prehistoric sites in the uppermost part of the St. Jones drainage have been excavated. Louise Heite found some scattered prehistoric remains at 7K-C-111, a short distance upstream on Maidstone Branch, including some pottery indicating woodland-period occupation (Heite 1984). At 7K-C-113, she excavated a ridge along the edge of a swamp on Fork Branch a short distance upstream, where points, chips, and flakes were found (Heite and Heite 1985).

On the present site of the Kent Vocational-Technical School, the former Delaware Section of Archæology found a site, 7K-C-81, identified as a probable procurement site. This site has been destroyed by construction of the school.

Site 7K-C-107, Blueberry Hill, was identified during a stratified sampling survey conducted by the University of Delaware Center for Archæological Research (Custer and Galasso 1983). No diagnostic artifacts were recovered during that survey, and the site was classified as a possible procurement site. This site has been damaged by dirt bikes and sand removal, but a small portion of the critical riverfront terrace survived more or less intact. This remnant has since been fully excavated by these authors, and a report is in preparation.

Historic-period house sites, both mansion houses and tenant houses, in the project area have been continuously documented since the eighteenth century. Known tofts are shown on the soil map (FIGURE 3). Previous investigations in the area demonstrated a relationship between toft locations and soil types, which are further explored in this report.

PREHISTORIC ENVIRONMENTS

People arrived in the Delaware Valley near the end of the last (Wisconsin) glaciation (Kraft 1986:31). Glaciers entrapped so much water that the ocean lay fifty miles east of the present Sandy Hook, New Jersey. As the glaciers retreated and the ocean advanced, the project area's ecology changed.

During the ten millenia before European settlement, Delaware's climate evolved from glacial tundra to temperate hardwood forest.

These changes in climate have influenced changes in man's subsistence strategies, family structure, and social organization through time.

Man's adaptation to the changing climate was marked by gradual cultural evolution. Custer and DeSantis (1986) have provided a useful table that correlates cultural and climatic change:

Dates	*Environmental Episode*	*Cultural Period*
8080 BC	Late Glacial	Paleo-Indian
6540 BC	Pre-Boreal/Boreal	
	Atlantic	Archaic
3110 BC	Sub-Boreal	
810 BC	Sub-Atlantic	Woodland I
AD 1000		
AD 1600		Woodland II

PREHISTORIC BACKGROUND

At the beginning of human occupation on Delmarva, mammoths, musk ox, horses, caribou, and walrus provided food for dire wolf, short-faced bear, and other predators. Man was among the smaller competitors in the tundra food chain, but his skills compensated for his physical shortcomings. Nomadic people of this Paleo-Indian period were among the most skilled makers of stone tools in the world. They would travel great distances to quarry the best flinty cobbles from which they made exquisite spearpoints, knives, and small tools.

Within the Denney's Road project area, there is limited potential for sites occupied during the Paleo-Indian Period, according to accepted models.

There is potential for outlying hunting sites southeast of the project area, where the floodplain of Fork Branch widens into a swamp, and to the west at the confluence of Fork Branch and a tributary. Based on existing information, one can expect sites

from the Paleo-Indian period will most likely occur west of the project area nearer the peninsular drainage divide.

The Paleo-Indian hunting - gathering society lasted in the coastal plain until about 6,500 BC, when the Atlantic climate episode and the Archaic period of prehistory began (Custer 1984:31). Northern hardwood forests had replaced the tundra, the ocean was rising as the glaciers receded, and the climate was warmer. Pleistocene megafauna were replaced by smaller game, which required different hunting techniques and tools.

Archaic people fashioned tools of a variety of lithic materials, including quartz, a material that is less tractable than the flinty cryptocrystalline silicate materials that Paleo-Indian people had favored. Ground stone axes and other heavy tools appear during this period. Many of these tools suggest a greater reliance on nuts, seeds, and other plant foods than indicated by Paleo-Indian tool assemblages.

Comparatively little is known about Archaic settlements. Archaeologists suspect that larger settlements may have been located along the ancestral Delaware River. These sites were later inundated as sea level rose and the river valley was invaded by the Delaware Bay estuary. Within the project area, micro-band base camps can be expected in sheltered locations along Fork Branch, while procurement sites are likely to be found in association with bay/basin features like Simon's Savannah.

By 3,000 BC, prehistoric society was decidedly different. Because people had stopped moving around so much, regional cultural differences began to appear in the artifact assemblages. Sedentary lifestyles ultimately led to horticulture, complex religious practices, and the accumulation of more, less portable, material goods. The last prehistoric period, the Woodland, is characterized by larger groups of people living together in villages, using pottery and other heavy or fragile goods that would have been difficult to move frequently from place to place. Woodland people tended to concentrate in more or less permanent settlements at places with abundant multiple resources, such as sites adjacent to shellfish beds on the edges of salt marshes. They sent out hunting parties, but they seldom dispersed whole populations to live off the land in the manner of their hunter-gatherer ancestors.

COLONIAL BACKGROUND

Kent County was first settled by Europeans during the last third of the seventeenth century, long after the adjoining baliwicks of Lewes and New Castle. The earliest grants to settlers between Duck Creek and Mispillion Creek were made in 1671, seven years after the English took possession of the Delaware Valley (Jackson 1983).

Kent County therefore lacks the Dutch and Swedish components that characterize New Castle and Sussex. In particular, Kent County does not have "long-lot" settlements that distinguish Dutch, Swedish and early English colonization tracts elsewhere in Delaware (Heite 1973:5,4).

A sizable number of the earliest settlers were from Virginia and the West Indies; some historians have theorized that they settled in Kent County in order to establish wheat farms to feed workers on the sugar plantations of the Caribbean.

Lower Delaware developed as an agricultural area, with a sizable African-American slave population. Remnant Native American groups remained in the community, but their identity was submerged for two centuries.

COMMERCIAL BACKGROUND

From the establishment of Philadelphia in 1682, central Kent County and most of downstate Delaware was part of the Philadelphia commercial sphere. The only convenient way for a Delawarean to reach a market was by water to the metropolis.

Even after Delaware broke away from Pennsylvania politically in 1776, the Bay's local commerce flowed into the Pennsylvania economy. Western Kent County and western Sussex were part of the Baltimore trade region for many of the same reasons. This dependence upon the shallop trade to Philadelphia focussed Kent County's

development at landings, where the high ground came down to the tidal rivers. Such places included Leipsic [Fast Landing] on Little Duck Creek [Leipsic River], Little Creek Landing on Little Creek, and Forest Landing at the head of navigation on St. Jones near the present village of Lebanon.

Inland from the landings, farmers depended upon roads that ran along the spines of the necks between the rivers. These roads often served also as portages across to the Chesapeake drainage, and as arteries for local traffic within each community.

Where the east-west landing roads met the north-south King's road to Philadelphia, towns would eventually be established.

When steam navigation and railroads were introduced during the nineteenth century, Delaware's farmers were afforded better access to Philadelphia and the markets beyond. As the Pennsylvania Railroad opened Chicago and the West, Delaware farmers enjoyed prosperity they had never known before.

During the twentieth century, automobiles, trucks, and paved highways changed the commercial patterns in Delaware. With the building of Route 13, which passes the site, Wilmington began to loosen Philadelphia's grip on the business life of lower Delaware.

Wilmington's dominance may prove to have been fleeting, as Dover has come into its own as Delaware's second city and as a commercial center in its own right, which in turn generated the traffic that led to the project that prompted the present study.

RURAL INDUSTRIAL BACKGROUND

Timber has been important in the area since Colonial times. One of the first resident landowners of the project area powered his sawmill by damming the main branch of the river downstream from the project area. Just above the project area, Maidstone Branch powered a sawmill during the nineteenth century. Remains of a motor-driven sawmill still stand in the project area.

Since the project area is dotted with patches of agriculturally unattractive boggy ground, much of it has remained in timber until the current generation, when developers have begun building with little regard for the pre-existing environment.

Environmental insensitivity is a new phenomenon in the local land-use picture. Until the project area began to urbanize, most human activities could be predicted by reference to environmental factors, such as natural drainage, soil suitability, and water.

The drift away from environmental responsiveness in land use began during the nineteenth century, when new machines allowed the farmer to locate his house without regard for certain natural features, and to cultivate larger fields with less human effort. Today's inhabitants, thanks to technological advances, appear to be almost independent of the natural environments that shaped every decision of their predecessors.

Only hunters, of all modern land users, continue the ten-thousand-year tradition of conforming to nature. In and around the project area, modern deer hunters' treetop perches can be seen adjacent to some of the most productive prehistoric sites, where ancient hunters waited in the same fashion by the deer trails and sharpened their weapons, leaving little piles of retouching flakes for the archæologist to find.

These same sites, on bluffs beyond the edges of the fields, have been favored in recent years for another kind of human activity: dumping. Every sort of modern trash can be found in woods along the perimeters of the high ground, and some of it is old enough (greater than 50 years) to qualify for consideration in cultural resource surveys.